

Patent Abstracts of Japan

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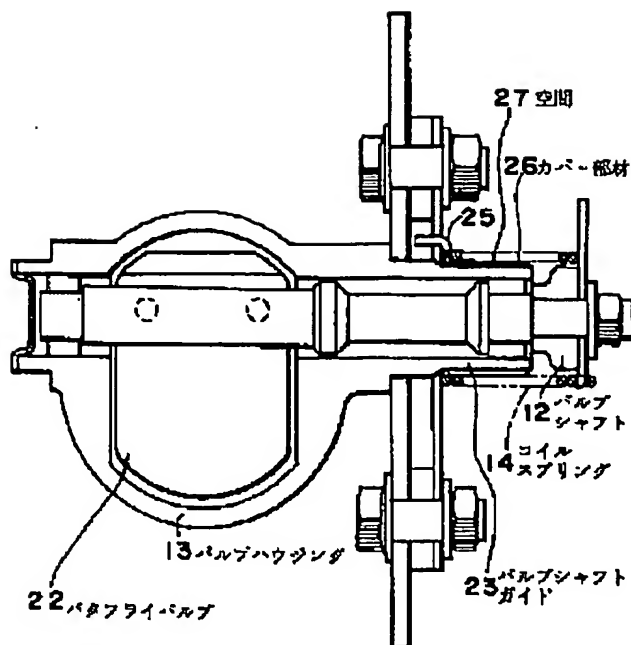
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APPLICANT : TOYOTA MOTOR CORP;

INVENTOR : IWATA MINORU;

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TITLE : NOISE ELIMINATOR OF INTERNAL COMBUSTION ENGINE



ABSTRACT : PURPOSE: To suppress such a trend that temperature of a coil spring to open or close a butterfly valve goes up to a high level by heat conduction from a valve housing and valve opening & closing characteristic changes.

CONSTITUTION: A covering member 26 is inserted between a valve shaft guide 23 and a coil spring 14 for valve opening and closing located on its outer circumference, and a space 27 is formed between the covering member 26 and the valve shaft guide 23. Heat from the valve shaft guide 23 is insulated by the space 27 and is hardly transmitted to the coil spring 14, and the temperature of the coil spring 14 is prevent from rising up to a high level.

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